



Semi-Annual Progress Report Mineta Consortium for Equitable, Efficient, and Sustainable Transportation

October 1, 2023 – March 31, 2024





Semi-Annual Progress Report for University Transportation Centers Mineta Consortium for Equitable, Efficient, and Sustainable Transportation (MCEEST) Led by San José State University

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- Center Director:

Karen E. Philbrick, PhD
MCEEST Executive Director
karen.philbrick@sjsu.edu and 408.924.7562

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San Jose State University Research Foundation 210 N. Fourth Street, 4th Floor, San Jose, CA 95112

- Recipient Identifying Number or Account Number: Not Applicable
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Signature of Submitting Official: Kann Philliph

Introduction

The Mineta Consortium for Equitable, Efficient, and Sustainable Transportation (MCEEST), led by the Mineta Transportation Institute (MTI) at San José State University, conducts research, education, workforce development, and technology transfer activities to improve mobility of people and goods. MCEEST unifies and focuses the efforts of four outstanding institutions that represent and support the geographical, cultural, racial, and socioeconomic diversity that makes our nation strong: Howard University; Navajo Technical University (NTU); San José State University (SJSU); and the University of South Florida (USF).

1. Accomplishments

Major Goals and Objectives of the Program

Evidence-based, people-focused research paves the way for transformative solutions to our nation's most pressing mobility challenges, including expanding the inclusivity of the transportation workforce. MCEEST conducts research to achieve the following goal and objectives aligned with improving mobility of people and goods:

Goal: Lead the nation in data-driven, human-centered research that delivers equitable, efficient, and sustainable transportation solutions that increase the mobility of people and goods and strengthen the nation's economy and global competitiveness.

Objective 1: Create a safer, more reliable, and more resilient transportation system that improves equity through increased access to jobs, housing, services, and other opportunities for historically underserved communities.

Objective 2: Reduce transportation's impact on climate change by identifying feasible alternative modes and effective ways to reduce vehicle miles traveled.

Research Program

MCEEST's research program is designed to make a measurable impact on achieving USDOT's strategic goals focused on **equity, climate and sustainability,** and **economic strength and global competitiveness**.

Ongoing Research

The following table lists projects underway and in the final proposal review stage. Details on all MCEEST projects can be found in the <u>UTC project information sheets</u>.

	Project Title	Campus Lead	Status
1	Automated Transit Networks (ATN): A Review of the State of the Industry and Prospects for the Future (Project partner: MCEEST Board of Trustees)	SJSU/MTI	Proposal review
2	Latent Active Transportation Methodology (Project partner: Caltrans)	SJSU/MTI	In progress
3	Making Micromobilty Work: Exploring Public Opinion to Inform Policy, Infrastructure, & Technology (Project partner: City of San José)	SJSU/MTI	In progress
4	Minimizing Distracted Pedestrians in Crosswalks at Signalized Intersections	Howard University	In progress
5	Moving Transportation Equity Beyond Title VI: Multimodal Equity (Project partner: Metropolitan Transportation Commission)	SJSU/MTI	In progress
6	Routes to Sustainable Goods Movement: How Local and Regional Governmental Agencies Can Plan for the Sustainable Freight System of the Future	SJSU/MTI	Proposal review
7	Smart Highway Construction Site Monitoring Using Artificial Intelligence (Project partner: Caltrans)	SJSU/MTI	In progress
8	Survey of Building Information Modeling for Infrastructure (BIM4I) (Project partner: Caltrans)	SJSU/MTI	In progress
9	The Intersection Between Health Care Costs and Long Work Hours in the Transport Sector (Project partner: King County Metro & AFL-CIO)	SJSU/MTI	In progress
10	Understanding the Current Transit Investment in Cybersecurity (Project partner: FTA Transit Advisory Committee for Safety)	SJSU/MTI	In progress
11	Understanding the Prevalence of Mental Health and Behavioral Distress in Transit Assaults and Presenting Targeted Response and Mitigation Methods to Reduce Victimization Trends (Project partner: University of South Florida's Louis de la Parte Florida Mental Health Institute)	USF	In progress

Emerging Leader Seed Grant Program

The Emerging Leader Seed Grant Program engages and develops leadership capacity among junior faculty at SJSU. This program supports faculty in the first five years of an academic position who are interested in exploring transportation research problems aligned with MTI's research goals and objectives and encourages multidisciplinary participation.

During this period of performance, one seed grant was funded:

Enhancing Road Safety by Addressing Hazards from Rental Vehicles
 PI: Yue Luo, Assistant Professor, Department of Industrial and Systems Engineering

Data Management Plan

MCEEST received approval for the data management plan (DMP) on August 25, 2023. The DMP has been posted to the <u>MCEEST website</u> and is referenced in materials sent to each research team. Research teams must acknowledge compliance with MCEEST's DMP when submitting their research proposals.

Dissemination of Results

MCEEST utilizes a diverse array of dissemination methods and media to ensure research results, conference proceedings, and expert interviews reach those responsible for managing change. These methods include publication, seminars, workshops, websites, social media, webinars, and other technology transfer mechanisms.

MCEEST hosts its #MTIResearchSnaps webinar program. This program provides a diverse audience with access to the latest MTI research during a short, 30-minute period. This "mini" format allows individuals to learn from the researchers for 15-minutes followed by a moderated Q&A for the last 15-minutes. Webinar recording and any related resources shared during the event are available online at https://transweb.sjsu.edu/events/past. These are also widely promoted through social media, newsletters, and other MTI communication opportunities.

Consortium Website

In compliance with the Grant Deliverables and Reporting Requirements for 2023 University Transportation Centers, MCEEST has a website that features all consortium activities: https://transweb.sjsu.edu/mceest. This website is updated regularly with event information, media coverage, and research activities.

Media Coverage

During this reporting period, there were **33 stories featured in print, radio, and television media**, bringing the total number of MCEEST stories to 33 since inception. Links to many of

these articles are featured on the <u>Consortium website</u> and below is a snapshot of activity:

Article	Media Outlet
MTI report outlines economic and environmental benefits of high-speed rail in U.S.	Mass Transit Magazine
MTI is Driving Change	Washington Square Magazine
High hopes for US high-speed rail	Smart Cities Dive
Survey guide developed help track harassment on transit	AsAmNews
As gas use declines, California could lose \$4 billion in transportation funding, report finds	CapRadio
Transit Desperately Needs Innovation. Why Pick on Microtransit?	Bloomberg CityLab
BART Board Hosts Expert Panel on Regional Measure	Streetsblog
New Report Examines Racial/Ethnic, Gender Diversity in Transit	Metro Magazine
Here's the truth behind three common misconceptions about human trafficking	San Diego Union Tribune

Continuing Education: Opportunities for Growth and Engagement

MCEEST provides thought leadership and contributes to solutions for some of our nation's most pressing transportation problems. Through regional forums, national summits, mid-career leadership training, and K-12 workforce development initiatives we help create a connected world. To that end, and during this period of performance, MCEEST sponsored/co-sponsored 14

technology transfer and workforce development activities that reached 1,568 attendees:

Fixing Our Broken Transit Planning Process October 31, 2023 • Online: U.S. transit has long grappled with escalating costs and delays: why do we struggle to build transit systems at a pace or a cost comparable to other countries? How can we mend a fractured transit system? The expert panelists' discussion was centered on the question: Should the focus be on individual projects or on achieving broader outcomes?



Connect for Your Career: An Introduction to Professional Associations in Transportation

November 8, 2023 • Online: In partnership with WTS-SF Bay Area chapter, MTI hosted this free virtual event "Connect for Your Career: An Introduction to Professional Associations in Transportation" that introduced university students and emerging professionals to Northern California transportation organizations offering networking, professional development opportunities, and/or scholarship opportunities.

Beyond the Tracks: High-Speed Rail Station Access and
Development January 26, 2024 • Online: MTI hosted this free
virtual event featuring the City of San Jose and high-speed rail
thought leaders for an insightful discussion of best practices and
lessons learned from developing and running high-speed rail
stations. The presentation and discussion explored the intricacies
of planning, designing, and developing mixed-use station areas and
multimodal passenger facilities that enable a safe, comfortable,
and seamless travel experience.



Putting the Brakes on Rider Harassment: Research Tools,
Community Partnerships, and Data-Driven Solutions February 6,
2024 • Online: Harassment is keeping riders from using transit and
feeling safe. MTI hosted a discussion with two transit operators and
their community partners to discuss strategies for learning about
what riders are facing and how to put an end to it. Taking on
harassment on transit doesn't need to be a daunting task—it starts
with data collection and setting up community partnerships to
guide the process. Speakers discussed both qualitative data
gathering approaches and a new passenger survey tool. This
webinar was designed for transit riders, operators,
community-based organizations, advocacy groups, government
workers, researchers, and anyone who wants to be a part of sharing



insights and strategies to address rider harassment and fostering a safer and more inclusive public transit experience for everyone. In addition to making the webinar recording available to the public, MTI also published a <u>list of additional resources</u> shared during the event.



Engineers Week 2024 February 12-16, 2024 • Santa Clara County: During February 12-16, the American Society of Civil Engineers (ASCE) and MTI celebrated and engaged future engineers by conducting outreach to K-12 students. Engineers Week 2024 consisted of multiple events, including Elementary School Day, Girl Day, and Middle School Day. Students heard from experts and participated in exciting hands-on activities

like building towers and testing the structures' resilience. On Girl Day, around 150 girls from two

Title I high schools and one charter school gathered at the San Jose Women's Club. These students heard from MTI's Executive Director Dr. Karen Philbrick and Kathlyn Terrazas, Manager and Strategic Launcher Engineer at Northrop Grumman about being a leader and a woman in the industry. Participating high school students also had the opportunity to tour the SJSU Engineering Building, which included exploring the Spartan Racing Shop. Altogether, the Engineers Week directly benefited more than 250 students, inspiring them to hone their critical thinking skills, develop a deeper understanding of STEM, and plan for their futures.

Trailblazer Tuesday Webinars March 5, 2024 • Online: In honor of Women's History Month, the Mineta Transportation Institute hosted a series of virtual fireside chats with a diverse panel of women transportation leaders at the apex of success in academia, public and private industries, and the nonprofit sector. During the webinar, participants explored compelling personal narratives and leadership journeys and gained valuable insights into how these leaders balance assertiveness with emotional intelligence, overcoming stereotypes and dispelling misconceptions about perceived weakness. Featured guests also shared invaluable insights as we dove into the profound impact of reshaping perspectives and championing women in the transportation industry and beyond. Webinars in the series include:

- 1. Trailblazer Tuesday with Veronica Vanterpool March 5, 2024 Online
- 2. Trailblazer Tuesday with Tilly Chang March 12, 2024 Online
- 3. Trailblazer Tuesday with Jannet Walker-Ford March 19, 2024 Online
- 4. Trailblazer Tuesday with Jennifer Homendy March 26, 2024 Online









Student Scholarships

Each year, MTI hosts an annual awards banquet and convocation celebration to recognize students graduating with their Master of Science in Transportation Management (MSTM) degree. This celebration also serves as a fundraising opportunity whereby MTI secures sponsorships that support scholarships for MSTM students. During this period of performance, MTI awarded \$19,000 to deserving students from proceeds raised during the 2023 celebration. Additionally, and as a result of MTI's leadership team building strong relationships with industry partners through board service, MTI partnered with the American Public Transportation Foundation and the American Road and Transportation Builders Association to award two joint 10K scholarships to deserving MSTM students. And, we were thrilled to develop the AECOM

Spark scholarship whereby AECOM pays for half (\$6,500) of the MSTM tuition for a student from an underrepresented background. Finally, we awarded a \$1,000 honorarium for the "Allied Telesis Outstanding Security Capstone Project" in honor of our Trustee Taki Oshima who passed away recently.

Plans During the Next Reporting Period to Accomplish the Goals?

No change to the agency-approved application.

2. Participants & Collaborating Organizations

What Organizations Have Been Involved as Partners?

During this period of performance, MCEEST partnered with the 24 organizations listed below.

- 1. Organization Name and Location: **AFL-CIO** (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Mineta Transportation Institute Research Project: "The Intersection</u>
 Between Health Care Costs and Long Work Hours in the Transport Sector"
- 2. Organization Name and Location: Alabama A&M University (Huntsville, AL)
 - Partner's Contribution to the Project: In-kind support of SAE Formula Car Project
 - Project: <u>Navajo Technical University Workforce Development Components</u>
- 3. Organization Name and Location: Alliance for Girls
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Putting the Brakes on Rider Harassment: Research Tools, Community</u>
 Partnerships, and Data-Driven Solutions
- 4. Organization Name and Location: American Road & Transportation Builders Association
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Fixing Our Broken Transit Planning Process</u>
- 5. Organization Name and Location: American Society of Civil Engineers (ASCE) San Jose (San José, CA)
 - Partner's Contribution to the Project: Event collaboration
 - Project: Engineers Week 2024
- 6. Organization Name and Location: Bay Area Rapid Transit
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Fixing Our Broken Transit Planning Process</u>, <u>Putting the Brakes on Rider</u>
 <u>Harassment: Research Tools</u>, <u>Community Partnerships</u>, <u>and Data-Driven Solutions</u>
- 7. Organization Name and Location: California Department of Transportation
 - Partner's Contribution to the Project: Match funding
 - Project: Mineta Transportation Institute Research Projects

- 8. Organization Name and Location: **City of San José Department of Transportation** (San José, CA)
 - Partner's Contribution to the Project: In-kind support
 - Project: Mineta Transportation Institute Research Project: "Making Micromobilty Work: Exploring Public Opinion to Inform Policy, Infrastructure, & Technology",
 Beyond the Tracks: High-Speed Rail Station Access and Development
- 9. Organization Name and Location: **District Department of Transportation** (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Howard University Research Projects</u>
- 10. Organization Name and Location: Federal Transit Administration (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Trailblazer Tuesday with Veronica Vanterpool</u>
- 11. Organization Name and Location: Federal Transit Administration Transit Advisory Committee for Safety (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: Mineta Transportation Institute Research Project: "Understanding the Current Transit Investment in Cybersecurity"
- 12. Organization Name and Location: High-Speed Rail Alliance
 - Partner's Contribution to the Project: In-kind support
 - Project: Beyond the Tracks: High-Speed Rail Station Access and Development
- 13. Organization Name and Location: **Hozho Center** (Crown Point, NM)
 - Partner's Contribution to the Project: In-kind support of NTU Summer STEM & Skills Program
 - Project: Navajo Technical University Workforce Development Components
- 14. Organization Name and Location: InfraStrategies
 - Partner's Contribution to the Project: In-kind support
 - Project: Fixing Our Broken Transit Planning Process
- 15. Organization Name and Location: K'é Community Trails (Crown Point, NM)
 - Partner's Contribution to the Project: In-kind support of NTU Summer STEM & Skills Program
 - Project: Navajo Technical University Workforce Development Components
- 16. Organization Name and Location: **King County Metro** (Seattle, WA)
 - Partner's Contribution to the Project: In-kind support

- Project: <u>Mineta Transportation Institute Research Project: "The Intersection</u>
 <u>Between Health Care Costs and Long Work Hours in the Transport Sector"</u>
- 17. Organization Name and Location: Los Angeles County Metropolitan Transportation
 Authority
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Putting the Brakes on Rider Harassment: Research Tools, Community</u>
 Partnerships, and Data-Driven Solutions
- 18. Organization Name and Location: **Metropolitan Transportation Commission** (Oakland, CA)
 - Partner's Contribution to the Project: In-kind support
 - Project: Mineta Transportation Institute Research Project: "Moving Transportation Equity Beyond Title VI: Multimodal Equity"
- 19. Organization Name and Location: Miami Dade Transit (Miami, FL)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>University of South Florida Research Projects</u>
- 20. Organization Name and Location: **National Transportation Safety Board** (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Trailblazer Tuesday with Jennifer Homendy</u>
- 21. Organization Name and Location: **NYU Marron Institute** (Brooklyn, NY)
 - Partner's Contribution to the Project: In-kind support
 - Project: Fixing Our Broken Transit Planning Process
- 22. Organization Name and Location: **San Francisco County Transportation Authority** (San Francisco, CA)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Trailblazer Tuesday with Tilly Chang</u>
- 23. Organization Name and Location: WTS International (Washington, DC)
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Mineta Transportation Institute Research Project: "Transportation</u>
 <u>Workforce Development Challenges and Mitigation Practices"</u>
- 24. Organization Name and Location: WSP
 - Partner's Contribution to the Project: In-kind support
 - Project: <u>Trailblazer Tuesday with Jannet Walker-Ford</u>

Have Other Collaborators or Contacts Been Involved? Nothing to report.

3. Outputs

Published Research Reports

Nothing to report.

Publications, Conference Papers, and Presentations (including briefings to elected officials, agency leaders, and other transportation professionals)

- Karen Philbrick, MCEEST Director, was asked to speak at three events during this period of performance. At the Joint CCRO/RAC Spring '24 Workshop for the California State University Chancellor's Office in February 2024, she presented "Building Large Multi-campus Multidisciplinary Grants." She also focused on workforce development in presentations for GoBiz GoMentum Meeting in Walnut Creek, CA ("GoMentum: Leading the Workforce Training of the Future") and Girl Day as part of ASCE's Engineers Week in San José, CA ("Tracks to the Future: Building the Talent Pipeline"). These events took place in February 2024.
- Lisa Staes, MCEEST partner at the University of South Florida, briefed the Transit Advisor Committee on new MCEEST research in December 2023. Ms. Staes presented "Transit Worker Assaults: Data Collection, Crime Prevention and Mitigation Strategies" at the 2023 APTA Safety & Risk Management Seminar in Austin, Texas in December 2023.
- MTI Research Associate Scott Belcher presented "Where Do I Start? Cybersecurity
 Assessments and Beyond" at the 5th National RTAP Conference in Mrytle Beach, SC in
 November 2023 and at the 2023 APTA Safety & Risk Management Seminar in Austin,
 Texas in December 2023.

Journal Publications

Nothing to report.

Books or other non-periodical, one-time publications

 Yagci Sokat, K. (2023) Forced Labor: Multi-disciplinary Perspectives in the Fight against Labor Trafficking. In C. Wigle & C. Baglin (Eds.), National Outreach Survey for Transportation: Combating Human Trafficking by Listening to Experiences, Challenges, and Recommendations of Frontline Workers and Those with Lived Experience. United Against Slavery. (pp. 375-390)

[https://files.unitedagainstslavery.org/s/d/NOST-2021-Forced-Labor]

Website(s) or other Internet site(s)

- An MCEEST website is maintained at http://transweb.sjsu.edu/mctm/index.html
- An MCEEST presence has been established, and continues to grow, in conjunction with the existing MTI Facebook page - https://www.facebook.com/MinetaTransportation/ and Twitter feed - www.twitter.com - "@MinetaTrans"

Technologies or Techniques

Nothing to report.

Inventions, Patent Applications, and/or Licenses

Nothing to report.

4. Outcomes

Nothing to report.

5. Impacts

What is the Impact on the Effectiveness of the Transportation System?

- MTI Research Associate, Dr. Serena Alexander was asked by the lead staff for the California State Senate Legislative Committee on Climate Change Policies to provide guidance and expertise on the development of <u>Senate BIII 1505</u>. [March 2024]
- California's Departments of Health and Transportation made use of MTI's research report, <u>Measuring Walking and Cycling Using the PABS (Pedestrian and Bicycling Survey)</u> <u>Approach: A Low-Cost Survey Method for Local Communities</u> and requested expert guidance to improve their approach to measuring active transportation in California cities and counties. [March 2024]
- The City of San José continues to use a <u>survey instrument</u> developed by MTI researchers in order to assess the success of the open streets Viva CalleSJ event, guide planning for future open streets events, and inform potential funders and community partners about the benefits of such events. [March 2024]

What is the Impact on the Adoption of New Practices, or Instances Where Research Outcomes Have Led to the Initiation of a Start-up Company? Nothing to report.

What is the Impact on the Body of Scientific Knowledge?

MCEEST Director, Dr. Karen Philbrick, served as a technical contributor to the <u>Fifth</u>
 <u>National Climate Assessment</u> report's chapter on Transportation.

What is the Impact on Transportation Workforce Development?

- MCEEST members, Mineta Transportation Institute and the University of South Florida's Center for Urban Transportation Research, have been named as the academic partners working with ENSCO, Inc. at the USDOT's Transportation Technology Center. A newly formed <u>Center for Critical Infrastructure Protection</u> provides essential training to the transportation industry on both cyber and physical security.
- MTI Research Associate, Dr. Asha W. Agrawal mentored a high school student from Gregori High School in Modesto, CA. The student is conducting a research project on transit ridership. [January 2024]
- MTI Research Associate, Dr. Frannie Edwards provided expert guidance to FEMA on how best to revise their training course, "E0390 Integrating Emergency Management Education into Your Institution" to be more inclusive and accessible. [October 2023]
- Past MTI Summer Transportation Institute high school student, Lawrence Vigo, was
 recently accepted at San Diego State University where he plans to study urban planning.
 As part of his application, he described the importance of the MSTI program to helping
 him discover his passion for transportation.

Other Highlights:

- MTI Research Associate, Dr. Frannie Edwards received an award from the International Association of Emergency Managers for her research poster titled "ICS for Transportation Field Personnel" at their 2023 Conference.
- MTI Research Associate, Dr. Asha W. Agrawal provided expert advice to Jack Opiola, Program Manager for the USDOT's Mileage Based User Fees Program, run through FHWA.
- MTI Executive Director, Dr. Karen Philbrick, received the Catalyzing Community Leader Award from Catalyze Silicon Valley and also received the Women's Transportation Seminar (<u>WTS</u>)—San Francisco Bay Area Chapter Katherine G. Johnson Trailblazer Award
- MTI staff provided translation support for Operation Lifesaver to make its Rail Safety Education brochure available in Mandarin, Chinese, and Vietnamese. The translated brochures are available for educational use on OLI's online State Coordinator Library.
- MTI Deputy Executive Director, Dr. Hilary Nixon, received the inaugural American Road & Transportation Builders Association (<u>ARTBA</u>) Excellence in Academia Award from the Women Leaders Council. This award is given annually to a woman in academia or a research institution who has demonstrated outstanding leadership, mentorship, and significant educational and/or research contributions in the transportation industry.

Changes/Problems

- Changes in Approach and Reasons for Change: Nothing to report
- Actual/Anticipated Problems or Delays Encountered: Nothing to report
- Changes that Have a Significant Impact on Expenditures: Nothing to report
- Significant Changes in Use or Care of Human Subjects, Vertebrate Animals, and/or Biohazards: Nothing to report
- Change of Primary Performance Site Location from that Originally Proposed: Nothing to report